



Lecture 3.5: Forests

Climate Redux:

Feb. 19, 2021

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Forest health

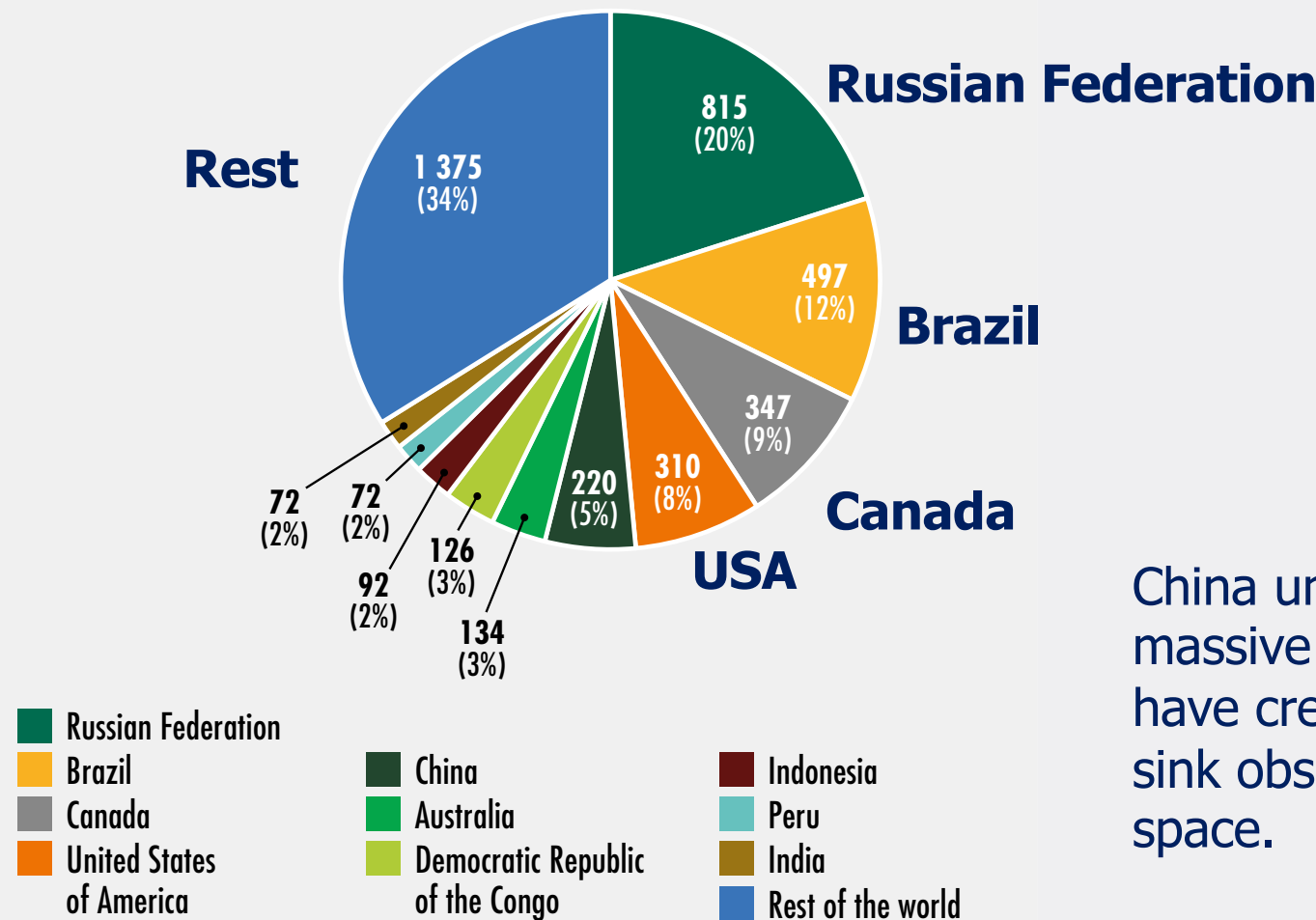
- Deforestation
- Bark beetles and other pests
- Fire – for good and bad
 - Forest health
 - Forest destruction
- Overgrowth and poor age distribution
- Invasive species

**Vital for fresh air, clean water, wildlife habitat and recreation,
to say nothing about aesthetics.**

Forest trends worldwide

- Forests cover 31% of land area
 - Land is 29% of area of Earth, so 9% of Earth
- About 1/2 is relatively intact
 - 1/3 might be called “primary”
 - About 5000 m² (1.2 acres) per person
- Loss rate about 1/4%/yr
 - Was almost 2 x that number
 - Commercial agriculture (cattle, soy beans & palm oil)
 - 40%
 - Local subsistence agriculture
 - 33%

Where are the forests?



China undertaking massive reforestation; have created a carbon sink observable from space.

Trump Administration Furthers Commitment to One Trillion Trees Initiative

- UN program
- US commitment reauthorized on 10/13/2020
- Interagency council: Interior and Agriculture Secretaries
- Also, a UN project. 2 billion planted worldwide
- Each tree saves 4 kg of carbon
 - 30 billion tones of carbon from CO₂ each year; 30 trillion kg
- 5 million planted in 18,000 acres of National Forests in 2019, double the number planted in 2018
 - 20 thousand tones of carbon; less than 1 part in a million effect
- Ethiopia planted 360 million in one day

Tree planting

